

**WASHINGTON DEPARTMENT OF ECOLOGY**  
**ENVIRONMENTAL ASSESSMENT PROGRAM**  
**FRESHWATER MONITORING UNIT**  
**STREAM DISCHARGE TECHNICAL NOTES**

**STATION ID:** 01P080  
**STATION NAME:** Tenmile Cr. abv Barrett Lake  
**WATER YEAR:** 2008  
**AUTHOR:** Chuck Springer

**Introduction**

Watershed Description

Tenmile Creek is a lowland agricultural tributary that drains into the mainstem Nooksack River at river mile 7.0, and is the focus of management efforts to improve habitat and instream flows under the Comprehensive Irrigation District Management Plan (CIDMP) and WRIA 01 management. Tenmile Creek supports populations of coho, steelhead, chinook, and chum salmon as well as cutthroat trout.

Gage Location

The gage is located on private property near the West Laurel Bridge crossing approximately 2.8 miles from the confluence with the mainstem Nooksack River. The gage is accessible only from this property.

Table 1.

Drainage Area (square miles)	25.7
Latitude (degrees, minutes, seconds)	48° 51' 26" N
Longitude (degrees, minutes, seconds)	-122° 31' 42" W

## Discharge

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	27
Median Annual Discharge (cfs)	20
Maximum Daily Mean Discharge (cfs)	121
Minimum Daily Mean Discharge (cfs)	3.8
Maximum Instantaneous Discharge (cfs)	129
Minimum Instantaneous Discharge (cfs)	3.5
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	58
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	6
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	0

Note: Statistics displayed in Table 2 may not include values in which the predicted discharge exceeds the range of ratings.

## Narrative

Peak flows in Water Year 2008 were lower than those in 2007, with peak events reaching less than 130 cfs. August and September storm events sustained low flows of around 9 cfs during those months.

## Error Analysis

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	1.8%
Weighted Rating Error (% of discharge)	13.4%
Total Potential Error (% of discharge)	15.2%

## Rating Table(s)

Table 4. Rating Table Summary

Rating Table No.	10	901	12
Period of Ratings	10/1/07 - 1/1/08	12/19/07 - 7/24/08	4/29/08 - 9/30/08
Range of Ratings (cfs)	2.5 - 804	5.9 - 804	2.0 - 804
No. of Defining Measurements	8	11	6
Rating Error (%)	11.9%	10.6%	18.4%

Rating Table No.			
Period of Ratings			
Range of Ratings (cfs)			
No. of Defining Measurements			
Rating Error (%)			

Rating Table No.			
Period of Ratings			
Range of Ratings (cfs)			
No. of Defining Measurements			
Rating Error (%)			

## Narrative

This station started Water Year 2008 in a state of elevated aquatic weed and grass growth. With the onset of winter storms, the stream quickly scoured to the same level it had in winter 2006, resulting in Table 901 (a recurrence of Table 9). Spring and summer weed growth in 2007 slowly filled the channel, eventually resulting in Table 12.

## Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	2.17
Maximum Recorded Stage (feet)	5.49
Range of Recorded Stage (feet)	3.32
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	0

## Narrative

This station logged continuously throughout Water Year 2008 without interruption, and with only nominal pressure transducer drift.

## Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	none
Range of Modeled Stage (feet)	
Range of Modeled Discharge (cfs)	
Valid Period for Model	
Model Confidence	

## Surveys

Table 7. Survey Type and Date (station, cross section, longitudinal)

Type	Date
none	

## Activities Completed

Nothing of note.
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